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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,125	02/19/2004	Ian Faye	2888	5226

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STRIKER, STRIKER & STENBY
103 East Neck Road
Huntington, NY 11743

EXAMINER

ONEILL, KARIE AMBER

ART UNIT	PAPER NUMBER
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1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/782,125

Applicant(s)

FAYE ET AL.

Examiner

Karie O'Neill

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 14-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 10, 2006, has been entered.
2. Claims 1-6 are pending this office action. Claim 1 has been amended. Claims 6 and 7 are cancelled. Claim 16 is added as new.
3. The Status Identifier of Claims 14 and 15 should be changed to read "Withdrawn from consideration".
4. The Status Identifier of Claim 13 should be changed to read "Currently amended".

Election/Restrictions

5. Claim 14 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The subject matter of the aforementioned claim is a fuel cell device comprising a fuel cell unit being formed so that "at least two fuel cell elements including a first fuel cell element having a higher

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power and a second fuel cell element having a lower power”, which is a distinct species from “the fuel cell device” of the original claim.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 14 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

6. Claim 15 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The subject matter of the aforementioned claim is a fuel cell device comprising a fuel cell unit being formed so as to “provide an operation for supplying heat so that in a case of an increased heat consumption said electronic control unit controls a smallest possible fuel cell element”, which is a distinct species from “the fuel cell device” of the original claim.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 15 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

7. Newly submitted claim 16 is directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: The subject matter of the aforementioned claim is a fuel cell device comprising a fuel cell unit having

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“at least one pressure generating unit for generating at least two different operational pressures”, which is a distinct species from “the fuel cell device” of the original claim.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 16 is withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-4, 8-10 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi et al. (US 6,586,123 B1) in view of Kirby (US 6,716,550 B1).

With regard to Claim 1, Yi et al. disclose in Figure 1, a fuel cell device, comprising a fuel cell unit (10) including at least two fuel cell elements (12), which are electrically connected in series and referred to as a cell stack assembly (column 3 lines 4-7) and an electronic control unit or system controller (46) for controlling individual fuel cell elements of said fuel cell unit and having improved characteristics rendering them suitable for use in vehicles (column 1 lines 61-63). Yi et al. does not disclose wherein at least two of said fuel cell elements are provided with different catalytic coatings, and

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wherein said at least two fuel cell elements have at least different quantities of the catalytic coating.

Kirby discloses a fuel cell stack comprising an anode layer and a cathode layer comprising different catalytic compositions, such as, different catalysts and/or different amounts of catalyst on each of the anode and cathode layers. Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to use different catalytic coatings and different quantities of catalyst in the fuel cell of Yi et al., because Kirby teaches different catalytic reactions occurring during operation of the fuel cell at the anode and the cathode would require different catalysts and different quantities of the catalysts (column 3 lines 32-37).

With regard to Claims 2-4, Yi et al. disclose the electronic control unit (46) including at least one control element for controlling material streams of individual ones of fuel cell elements, primarily the control element being formed as a control valve (34) operable to regulate the pressure of the fuel reactant as it enters the anode. It is the position of the examiner that the control element being arranged between two of said fuel cell elements, are inherent, given that the control elements disclosed by Yi et al. and the instant application have similar material properties. A reference that is silent about a claimed invention's features is inherently anticipatory if the missing feature is necessarily present in that which is described in the reference. Inherency is not established by probabilities or possibilities. *In re Robertson*, 49 USPQ2d 1949 (1999).

With regard to Claims 8-9, Yi et al. disclose at least one pressure generating unit for generating at least two different operational pressures. The pump or blower (32)

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used to pressurize air oxidant is variable and connected with the controller (46). The pump (30) establishes a predetermined coolant water pressure in the coolant stream. The reactant gas streams typically have a greater pressure than the coolant gas stream (column 4 lines 4-12).

With regard to Claim 10, Yi et al. disclose wherein the fuel cell unit is formed to provide an operation for supplying current (column 5 lines 1-17).

With regard to Claims 12 and 13, Yi et al. disclose in Figure 1, a fuel cell device, comprising a fuel cell unit (10) including at least two fuel cell elements (12), which are electrically connected in series and referred to as a cell stack assembly (column 3 lines 4-7) and an electronic control unit or system controller (46) for controlling individual fuel cell elements of said fuel cell unit and having improved characteristics rendering them suitable for use in vehicles (column 1 lines 61-63).

10. Claims 5 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yi et al. (US 6,586,123 B1) in view of Kirby (US 6,716,550 B1), as applied to Claims 1-4, 8-10 and 12-13 above, and in further view of Menon et al. (US 2004/0146758 A1).

Yi et al. and Kirby disclose the fuel cell device in paragraph 9 above, but do not disclose wherein at least two of said fuel cell elements are provided with different maximum electrical powers and wherein said fuel cell unit is formed so as to provide an operation for supplying heat.

Menon et al. disclose a fuel cell device wherein at least two of said fuel cell elements are provided with different electrical powers, the secondary fuel cell (40) is

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designed to operate differently from the primary fuel cell (22), for example, having different efficiencies or maximum powers (paragraph 0022), and wherein the fuel cell unit is formed so as to provide an operation for supplying heat as is provided by all exothermic reactions. Therefore, at the time of the invention it would have been obvious to one of ordinary skill in the art to use two fuel cells formed to provide different electrical powers and for supplying heat with the stack assembly of Yi et al. and Kirby, because Menon et al. teach the use of the primary cell to provide the primary electrical load and the secondary cell provides a lower power to a load which requires less operating power (paragraph 0022) and converting anode effluent into heat that can be used in other parts of the stack (paragraph 0005).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karie O'Neill whose telephone number is (571) 272-8614. The examiner can normally be reached on Monday through Friday from 8am to 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Karie O'Neill
Examiner
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KAO

A handwritten signature in black ink, appearing to read 'Dahwei Yuan', with a stylized flourish at the end.

DAH-WEIYUAN
PRIMARY EXAMINER